# ABSTRACT

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| Title of Thesis: | FAMILY SUPPORT, REJECTION, AND CONNECTEDNESS: FAMILY CONTEXT AND SGM YOUTH MENTAL HEALTH AND SUBSTANCE USE |
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Adolescence is an acutely significant period of development, and sexual and gender minority youth (SGMY) experience unique stressors which contribute to elevated rates of substance use, mood disorders, suicidal ideation and attempts, and other health outcomes when compared with their heterosexual, cisgender peers. Family is often the context in which SGMY navigate these stressors and manage their health. Family rejection and support have each been linked to health outcomes among SGMY, including depression and substance use. More globally, family connectedness is beneficial to adolescent's health but is an understudied construct within SGMY research. Limited research has examined how these family processes converge to influence SGMY health. In an effort to capture nuance in family process and SGMY health, this study examined the relationship between experiences of family support,

rejection, and connection among SGMY and their depressive symptoms and substance use. Findings have implications for research and practice with families.

# FAMILY SUPPORT, REJECTION, AND CONNECTEDNESS: FAMILY CONTEXT AND SGM YOUTH MENTAL HEALTH AND SUBSTANCE USE

by

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# List of Abbreviations

AFAB – assigned female at birth

AMAB – assigned male at birth

CDC – Center for Disease Control and Prevention

GM – gender minority

GMY – gender minority youth

LGBTQ – lesbian, gay, bisexual, transgender, queer/questioning

SGM – sexual and gender minority

SGMY – sexual and gender minority youth

SM – sexual minority

SMY – sexual minority youth

SOGI – sexual orientation and gender identity

SUD – substance use disorder

Family Support, Rejection, and Connectedness: Family Context and SGM Youth Mental Health and Substance Use

# Chapter 1: Introduction

## Statement of the Problem

Adolescence is an acutely significant period of development where multiple vulnerabilities intersect (e.g., physical, emotional, psychological, and interpersonal) in ways that shape health and wellbeing over the life course (Fish et al., 2020a; Russell & Fish, 2019; U.S. Department of Health and Human Services, 2018). Sexual and gender minority (SGM) youth – by virtue of their stigmatized and minoritized sexual and gender identities – oftentimes experience additional vulnerabilities and stressors, including victimization and internalized homophobia (i.e., minority stressors; D'Augelli, 2002; Diamond et al., 2011; Pearson & Wilkinson, 2013; Ryan et al., 2009). Minority stress theory postulates that these stressors oftentimes contribute to elevated rates of substance use, mood disorders, and suicidality among SMG youth (SGMY) when compared with their heterosexual and cisgender peers (for review Connolly et al., 2016; Marshal et al., 2011; Meyer, 2003; Needham & Austin, 2010; Pearson & Wilkinson, 2013; Russell & Fish, 2016; Watson et al., 2018a).

Despite what we know about SGMY's mental health and substance use disparities (for review Connolly et al., 2016; Marshal et al., 2011; Meyer, 2003; Needham & Austin, 2010; Pearson & Wilkinson, 2013; Russell & Fish, 2016; Watson et al., 2018b), available research has not adequately captured the complex interplay of mental health and substance use among SGMY. Co-occurring substance use and mental illness is common in the general population (Center for Health Policy, 2018;

Kessler et al., 1996; Substance Abuse and Mental Health Services Administration, 2019). Around 30% of adolescents who experienced a past year substance use disorder (SUD) also experienced a major depressive episode (Substance Abuse and Mental Health Services Administration, 2015). In the broader research, adolescents with mood disorders are two-to-four times more likely to develop an SUD than their peers without a mood disorder (for review, Najt et al., 2011). Among SGM adults, those who smoke are more likely to have a history of mental health concerns, and more frequent cigarette use is correlated with depressive symptoms (Drescher et al., 2018). Yet, there is limited research considering how minority stress factors are related to substance use and mental health in a way that accounts for this co-occurrence among SGMY.

The timing and contexts in which SGM people experience these negative health outcomes have changed across cohorts. Contemporary cohorts of sexual minority (SM) youth are coming out at younger ages – with an average age of disclosure at 14 years old (Bishop et al., 2019; D'Augelli et al., 2005; Perrin et al., 2004; Russell & Fish, 2016) – and experience less time between sexual identity milestones (e.g., first self-awareness, first self-disclosure; Bishop et al., 2019; Martos et al., 2015). Although research on milestones for gender minority (GM) youth is limited, Grossman et al. (2006) found that GM youth (GMY) experience gender expression milestones that include considering oneself transgender and disclosing this identity to someone before the age of 19. Importantly, these data suggest that contemporary SGMY are experiencing SGM-related self-awareness and minority stressors at earlier stages of their development which puts them at greater risk for

developing negative health outcomes and maladaptive coping strategies, such as substance use, across the life course (Baams et al., 2019; Feinstein, 2020; Russell & Fish, 2019).

Specifically, the current cohorts of SGMY are disclosing and engaging in identity-associated behavior while still living with their parents or caregivers (Bishop et al., 2019; Grossman et al., 2006; Martos et al., 2015; Russell & Fish, 2016; Russell & Fish, 2019). Life course theory illuminates the significance of these contextual differences between cohorts (Elder, 1998): SGMY are exploring their sexual and gender identities at a time characterized by normative adolescent development, but this now coincides with the typical age of substance use onset and the inception of major mood and anxiety disorders, greater minority stressors (e.g., peer harassment), and near-total dependence on family (Russell & Fish, 2019). Life course theory frames the significance of SGMY disclosing their sexual orientation and gender identity (SOGI) at younger ages and helps to capture the complexity of both adolescent's human agency (e.g., coming out, coping with stress through substance use) and interdependence within the family system (Elder, 1998). Life course theory also helps frame how these early experiences are formative for relationships, health, and wellness across the life course (Elder, 1998).

The overall family environment and response to SGMYs' disclosure directly impacts SGMY's mental health and substance use (D'Amico & Julien, 2012; Mustanski & Liu, 2013; Reeb et al., 2015). Perhaps not surprisingly, general family connectedness is important for all youth with SGMY who report feeling connected to family experiencing increased academic outcomes, lower levels of depressive

symptoms, higher self-esteem, and lower rates of substance use (Eisenberg et al., 2017; Gower et al., 2018; Grossman et al., 2011; Pearson & Wilkinson, 2013; Perrin et al., 2004; Veale et al., 2017; Watson et al., 2016; Watson et al., 2019b; Watson et al., 2019c). Yet, SGMY are more likely to report deficits in family support than heterosexual and cisgender youth (Baams et al., 2019; Fish & Russell, 2018; Needham & Austin, 2010; Watson et al., 2019b), and lower parenting quality and family connection place SGMY at higher risk for adverse mental health outcomes and increased substance use (McConnell et al., 2016; Needham & Austin, 2010; Watson et al., 2019a).

Still, given their unique social identities, SGMYs' mental health and substance use are dually impacted through general family processes (e.g., connectedness) but also family behaviors related to their SGM identity/identities (Meyer, 2003). LGBTQ-specific support behaviors from family members promote positive health outcomes and (in some cases) buffers the negative effects of minority stress against negative health outcomes (Olson et al., 2016; Poteat et al., 2011; Ryan et al., 2010). LGBTQ-specific support from family members is associated with psychosocial adjustment in young adulthood, lower levels of depressive symptoms, and lower rates of substance use (D'Amico & Julien, 2012; Needham & Austin, 2010; Olson et al., 2016; Ryan et al., 2010; Snapp et al., 2015).

Despite the richness of qualitative studies which highlight the prevalence and pervasiveness of LGBTQ-specific family rejection among SGMY (Catalpa & McGuire, 2018; Higa et al., 2014; Riley et al., 2011), a systematic review conducted by Bouris et al. (2010) found only five articles that examined the impact of family

rejection on SM youths' (SMY) health outcomes. The limited research on GMYs' experiences of family rejection mainly includes experiences among adult participants but point to similar negative outcomes found in studies of SMY (Klein & Golub, 2016; Yadegarfard et al., 2014). Of the studies available, results show a consistent pattern between experiences of LGBTQ-specific rejection from family members and higher risk for substance use, psychological maladjustment, and depression, albeit more so for SM relative to GM youth (D'Amico & Julien, 2012; D'Augelli, 2002; Gamarel et al., 2020; Klein & Golub, 2016; Ryan et al., 2009; Willoughby et al., 2010; Yadegarfard et al., 2014).

Despite recent conceptualizations of a dynamic family environment that characterize the complex and sometimes ambiguous experienced by SGMY (Catalpa & McGuire, 2018; Perrin et al., 2004; Reczek, 2016), studies have traditionally measured LGBTQ-specific family rejection and support separately (Perrin et al., 2004; Ryan et al., 2009; Ryan et al., 2010). However, examining these experiences in isolation oversimplifies the dynamic and complex experiences of SGMY within their families. To my knowledge, only one study to date has measured simultaneous experiences of rejection and support (Allen, 2020): Allen found that families of transgender, genderqueer, and nonbinary adults were characterized by different profiles of support and rejection and that the majority of participants reported family environments with equal levels of support and rejection (which he and others have characterized as "ambiguous" family environments; see Catalpa & McGuire, 2018). Importantly, Allen (2020) found that transgender participants navigating these more ambiguous family contexts had poorer mental health than transgender participants

who experienced either acceptance or outright rejection. Therefore, it is critical to consider both LGBTQ-specific family rejection and support in an effort to better understand how these family characteristics co-exist and influence LGBTQ youth mental health, particularly during adolescence (Fish et al., 2020a; Newcomb et al., 2019).

Despite the consensus around the complexity of SGMY's familial experiences (Fish et al., 2020a; Fish et al., 2020b), only one study to date has examined the simultaneous experiences of LGBTQ-specific family support and rejection (Allen, 2020), and that study was limited to transgender adults. Examining SGMYs' mental health and substance use in the context of normative and minority-specific family stressors reflects a better portrayal of youths' lived experience in families and better operationalizes the main tenants of minority stress theory (Allen, 2020; Meyer, 2003; Perrin et al., 2004). Therefore, this study will examine the independent and simultaneous experiences of LGBTQ-specific family rejection and support in the context of general family connection. The study is further strengthened by simultaneously modeling these familial effects on mental health and substance use among SGMY, which is often not captured in SGMY health research.

# Chapter 2: Review of the Literature

SGMY experience higher rates of depression, suicidality, and substance use when compared to their heterosexual, cisgender peers (for review Connolly et al., 2016; Marshal et al., 2011; Meyer, 2003; Needham & Austin, 2010; Pearson & Wilkinson, 2013; Russell & Fish, 2016; Watson et al., 2018). According to Meyer's (2003) minority stress theory, SGMYs' increased risk for these negative health outcomes from stigma and stressors related to their minoritized status in society. As a result of these stressors, SGMY may also be at increased risk for independent and co-occurring mental illness and substance use (Najt et al., 2011; Painter et al., 2018).

Unique to the current social moment, today's SGMY are more apt to experience minority stressors at a stage in their development characterized by unique vulnerability as a result of their earlier self-awareness when compared to former cohorts of SGMY (Fish et al., 2020a). Given that SGMY are exploring and disclosing their identities earlier in their life course (Bishop et al., 2020), families (arguably more than ever) play an integral role both in protecting and exacerbating vulnerabilities for poor mental and behavioral health for SGMY. In the following sections, I will explore the effect of general family connectedness on SGMYs' depressive symptomology and substance use. Following that, I examine how LGBTQ-specific family support and rejection are uniquely associated with mental and behavioral health among SGMY. As part of my review, I will also highlight gaps in current research regarding the co-occurrence of mental and behavioral health issues as well as the simultaneous experiences of these unique familial factors.

## SGMY Mental Health

Around half of lifetime mental health disorders begin during adolescence, with early onset associated with greater persistence and severity of the disorder across the life course (Kessler et al., 2007). Among mental disorders, mood disorders have the third-highest prevalence among adolescents (Kessler et al., 2012). The pervasiveness of depression among adolescents has increased in the past two decades: 8.7% of adolescents in the United States experienced major depression in 2005 compared with 11.3% in 2014 (Mojtabai et al., 2016). In 2017, 13.3% of adolescents aged 12-17 met the criteria for major depression (National Institute of Mental Health, 2019). Studies also demonstrate that female adolescents have higher prevalence rates of depression when compared to males of the same age (Mojtabai et al., 2016; National Institute of Mental Health, 2019).

Acute stress and chronic adversity (e.g., adverse childhood experiences) are two major risk factors for depression among adolescents, with stressors experienced in a relational context carrying the greatest weight (Thapar et al., 2012). Unfortunately, it is well-documented that SGM populations experience acute and chronic stressors due to their minoritized status in society, placing them at increased risk for depression across the life course (Meyer, 2003; Rice et al., 2019). There is a strong research base showing higher rates of mood disorders within the SGM population when compared with the heterosexual, cisgender population (Bostwick et al., 2010; Cochran et al., 2007; Conolly et al., 2016; Fergusson et al., 2005; King et al., 2008; Marshall et al., 2011; Watson et al., 2018b). In a study by Mustanski et al.

(2010), almost 18% of lesbian and gay youth, 7% of bisexual youth, and 20% of transgender youth in a community sample met the criteria for depression.

Given the rising prevalence of depression among adolescents in recent years, these numbers are likely to be higher among contemporary SGMY. In fact, research suggests that heterosexual and sexual minority youth disparities in depression and suicidality have largely remained consistent or even widened in the past decade (Liu et al., 2020; Peter et al., 2017; Raifman et al., 2020). In other words, trend studies show that despite improved attitudes towards SGM people, these disparities in mental health have remained fairly consistent over time. For example, Watson et al. (2018b) found that sexual orientation disparities in depressive symptoms have widened for gay males and bisexual males and females, whereas disparities for lesbian youth have remained the same from 1998 to 2013. Although trend studies of transgender youth are not available, a cross-sectional study revealed that Canadian GMY experience greater disparities in mental health relative to cisgender youth than do SMY when compared to heterosexual youth (Veale et al., 2017). Similarly, GMY in the U.S. report higher rates of depression and lower levels of protective factors than their cisgender peers (Connolly et al., 2016; Eisenberg et al., 2017).

Studies of SM mental health also highlight important within-group differences. Among SMs, bisexual women often have higher rates of mood disorders (58.7%) than lesbian women (44.4%; Bostwick et al., 2010). Whereas sexual orientation-related disparities in mood and substance use disorders are consistently documented for bisexual youth and adults and sexual minority women, findings among gay men are mixed (Cochran et al., 2007; Marshal et al., 2011; Ploderl &

Tremblay, 2015). Despite evidence of significant heterogeneity within SGMs, most of the literature compares SGMs to their heterosexual and cisgender counterparts, respectively (Cochran et al., 2007; Marshal et al., 2011; Needham & Austin, 2010), which glosses over important within-group variability that could inform more targeted intervention and prevention strategies to address SGMY mental health.

**SGMY Substance Use**

The age of onset for substance use is most prevalent in mid-adolescence, with an increase in use through adolescence and into young adulthood (Kessler et al., 2007). The two most common substances among adolescent usage are alcohol and tobacco (Center for Disease Control and Prevention [CDC], 2020). According to the CDC (2019), tobacco use is the leading cause of preventable diseases and deaths in the United States and most tobacco use begins during adolescence. In 2019, 40.5% of middle and high school students reported having ever used a tobacco product and 23% report current use (Center for Disease Control and Prevention, 2019). Alcohol is the most used substance among youth in the U.S (Center for Disease Control and Prevention, 2020). A 2017 survey found that 30% of adolescents drank some alcohol and 13% engaged in binge drinking in the past thirty days (Center for Disease Control and Prevention, 2020). Importantly, these early experiences with substance use make youth more vulnerable to substance use and abuse later in the life course (Schulenberg et al., 2018; Schulenberg et al., 2015).

Although adolescent substance use is declining in the general population, research continues to document elevated rates of substance use among SGM populations (Burgard et al., 2005; Choi et al., 2017; Cochran et al., 2007; Day et al.,

2017; Hatzenbuehler et al., 2008; King et al., 2008; Russell et al., 2002). According to a national sample of SGM adolescents, 55% of SGMY reported lifetime alcohol use, 27% reported recent alcohol use, and 10% reported recent binge drinking (Watson et al., 2020). In the same study, 22% reported lifetime use of cigarettes, and 7% reported recent use. Although studies are limited, studies among SGMY show that transgender adolescents reported the highest rate of lifetime alcohol and cigarette use relative to their cisgender SM peers (Watson et al., 2020). Other studies have similarly found elevated risk for substance use among transgender youth when compared to cisgender heterosexual and cisgender SMY (Day et al., 2017; Watson et al., 2019c; Wheldon et al., 2019). Within-group studies also suggest differential risk for substances among SGMY. SM girls and bisexual adolescents show larger disparities in substance use relative to their SM male and gay/lesbian peers (Marshal et al., 2008). Similarly, binary transgender youth have higher rates of lifetime alcohol and cigarette use when compared with their nonbinary/genderqueer peers, and binary transgender youth assigned female at birth (AFAB) have the highest rates of cigarette and recent alcohol use relative to binary transgender youth assigned male at birth (AMAB) as well as nonbinary and genderqueer youth (Watson et al., 2020).

**Co-Occurrence**

Co-occurrence of substance use and mental health disorders are common (Hatchel et al., 2019; Kessler, 1996; Najt et al., 2011). Despite the prevalence of mental health and substance use comorbidity in the general population (Kessler et al., 1996) and a higher prevalence of mood disorders and substance use among SGM populations (Bostwick et al., 2010; McCabe et al., 2009), there remains limited

research on (1) the prevalence and contributing factors of co-occurring mental health and substance use among SGMY and adults and (2) how different minority stress factors may uniquely contribute to mental health and substance use among SGMY and adults. Drescher et al. (2018) found in their study of SGM adults that smokers were more likely to have a history of depression than non-smokers. Additionally, more frequent cigarette use was associated with depressive symptoms (Drescher et al., 2018). Although not specific to the SGM population, in a 2011 review found that adolescents with mood disorders were two to four times more likely to develop a substance use disorder when compared to youth with no mental health diagnoses (Najt et al., 2011). Research has also found a greater prevalence of co-occurring substance use disorders among SM young adults when compared with cisgender, heterosexual young adults (Jun et al., 2019). Given that treatment is complicated by mental health and substance use comorbidity (Najt et al., 2011), research that helps to elucidate the unique factors that shape these experiences are important for developing strategies to support SGMY health.

**Theory**

The current study was guided by two theoretical perspectives: minority stress theory and life course theory. Minority stress theory is the most frequently applied model to explain SGMY health disparities (Goldbach & Gibbs, 2016). Meyer's (2003) minority stress theory posits that SGM people experience minority stressors tied to their categorization in a socially stigmatized group. Minority stressors stem from hostile conditions in the social environment and fall on a continuum from distal (e.g., stigma, interpersonal discrimination) to proximal (e.g., internalized homo-and

transphobia, expectations of rejection). As SGMY's experience prejudiced events (distal stressor), hold expectations of rejection (proximal stressor), and internalize discrimination (proximal stressor), their mental health is negatively impacted, which may lead to maladaptive coping behaviors, such as substance (ab)use (Meyer, 2003).

Minority stress theory was originally created and tested with SM adults but has since been adapted and validated with SMY (Goldbach & Gibbs, 2016). Goldbach and Gibbs show that SMY experience the minority stressors presented in Meyer's (2003) model and highlight unique considerations when examining stressors and resources among youth such as: social context, context-specific resources, and identity development (2016). That is, minority stressors contribute to SMY's mental health and coping behaviors in distinct ways due to SMY's developmental tasks (e.g., identity formation) and context (e.g., living with parents). Goldbach and Gibbs' (2016) adaptation of minority stress theory is vital for understanding the unique contributions of SMY's context to their management of minority stressors. Goldbach and Gibbs highlight that SGMY often utilize resources from one or several contexts when experiencing stress in another context (e.g., talking with a parent about experiencing bullying at school; 2016). Additionally, SGMY's sexual and gender identity development is dynamic (e.g., identity label changes as youth learns about sexual and gender identities), a process SGMY can experience as stressful (Goldbach & Gibbs, 2016). It is important to note that, although minority stress theory has been adapted and tested with GM populations (Hendricks & Testa, 2012; Testa et al., 2015), the validation of this theory has occurred most often with samples of SM youth and adults relative to GM youth and adults.

Life course theory further illuminates the salience of examining the impact of minority stressors in the context of SGMYs' developmental stage. Life course theory suggests that the developmental impact of transitions and stressors is dependent on when they occur in a person's life (Elder, 1998). This impact is guided by four principles: historical time and place, timing in lives, linked lives, and human agency. Historical time and place is understood as the larger sociocultural events that occur at a given time (e.g., marriage equality ruling). Similarly, the timing of a specific event in one's life can influence the impact of that even in the life course narrative and trajectories (e.g., coming out during adolescence relative to adulthood). Through our linked lives, however, youth can experience distinct impacts related to this event from other individuals (e.g., rejection of that identity by parents or friends). Finally, the choices individuals make through their human agency (e.g., whether or not to come out to parents), as well as the timing with which it occurs and in the context of their relationships, has important implications for people across their life course.

Historical time and place provides perspective on how larger sociocultural events impact people/cohorts differently depending on when these events occur in one's development, the shared relationships these events are expressed through, and the individual choices made within the constraints of these sociocultural shifts (Elder, 1998). Sociocultural changes related to the acceptance and visibility of SGMs now provide a space for SGMY to explore their sexual and gender identities during a developmental period characterized by multiple changes and vulnerabilities (Fish et al., 2020a; Russell & Fish, 2019). SMs in the current cohort of youth are reaching their disclosure milestone around the age of 14 (Bishop et al., 2019; D'Augelli et al.,

2005; Perrin et al., 2004; Russell & Fish, 2016) whereas GMY, on average, disclose their gender identity before the age of 19 (Grossman et al., 2006).

When we juxtapose the current historical moment with the concept of timing of lives, we see that these new possibilities for SGMY now coincide at a unique point in the life course that makes youth uniquely vulnerable to identity-based stressors, psychological distress, and substance use. Adolescence involves the development of metacognition, increased risk-taking, heightened emotional responses, limited stress moderation, identity formation, and higher levels of prejudice (Russell & Fish, 2019; U.S. Department of Health and Human Services, 2018). These developmental changes make youth in general and SGM adolescents more specifically vulnerable to minority stressors and the onset of depression and substance use. For example, youth who reported self-identification as an SM at the onset of emerging adulthood had higher levels of binge drinking and greater rates of alcohol and cigarette use than their heterosexual peers (Talley et al., 2010).

SGMY do not experience these transitions and their minority stressors in isolation, however. Their lives are linked with their families which provide the context for the formation of youths' identity (Elder, 1998), including SGMYs' sexual and gender identities. Families connect individual experience and historical events through the linked fate of its members, so examining family context and processes is integral to understanding how minority stressors contribute to SGMYs' mental health and substance use disparities during adolescence and across the life course. (Elder, 1998; Fish et al., 2020a). For example, lower familial warmth experienced in childhood and adolescence increased SMs alcohol-related problems in emerging

adulthood (Coulter et al., 2019). Additionally, SM girls who report poorer parent-child relationships during adolescence are at greater risk for alcohol abuse in adulthood (Fish et al., 2020b). These findings highlight the unique contribution of families to SGMY's mental health and substance use outcomes through the linked lives of its members and how these experiences in adolescence can shape health and health behaviors later in the life course.

**Family Context**

Family environment has significant impacts on adolescent development and well-being, and adolescence is a period of significant family change in the general population (U.S Department of Health and Human Services, 2018). Despite what we know about the positive impacts of healthy family environments for adolescents, there has been minimal research and an oversimplified understanding of how familial factors shape the health and wellness of SGMY (Newcombe et al., 2019). Although some SGMY encounter vehement rejection or unconditional support, many (arguably most) SGMY navigate family relationships and environments that are likely characterized by both rejecting and supporting behaviors (e.g., ambiguous; Allen, 2020; Catalpa & McGuire, 2018; Reczek, 2016). This inconsistency and ambiguity likely have unique consequences for SGMY's mental health and substance use (Allen, 2020; Catalpa & McGuire, 2018). Given that current cohorts of SGMY are exploring their sexual orientation and gender identities while still living at home, it is critical to better understand the nuance and impact of these unique family features. In doing so, we help to illuminate the processes that contribute to SGMY's health

disparities and meaningful ways to intervene with families to help support their SGM children (Fish et al., 2020a; Grossman et al., 2006; Russell & Fish, 2019).

To capture the complexity of SGMY's family environment, it is important to consider general connectedness as well as identify-specific (i.e., SGM-related) support and rejection. Research suggests that the experiences of general connectedness and LGBTQ-specific support are distinct. As with all adolescent populations, general family connectedness is broadly accepted as contributing to positive SGMY health, whereas the lack of general family connectedness increases SGMY's risk for negative health outcomes (Bouris et al., 2010; McConnell et al., 2016; Needham & Austin, 2010). However, LGBTQ-specific support appears to provide unique benefits to mental and behavioral health for SGMY above and beyond general familial connection. Even after adjusting for general family connectedness, LGBTQ-specific family rejection is positively associated with SGMY's substance use (Gamarel et al., 2020), whereas LGBTQ-specific family support is associated with lower psychological distress and substance use among SGMY (Ryan et al., 2010; Snapp et al., 2015). I discuss these constructs in more detail below.

### *General Family Connectedness*

Family plays a vital role in the health of adolescents. Although individuation is a task of adolescence, youth are still dependent on their families for "support, affection, and decision-making, as well as for help establishing their identities" (U.S. Department of Health and Human Services, 2018, p. 22). For example, Reeb et al. (2015) found that higher levels of family cohesion are associated with lower levels of alcohol-related problems among adolescents.

Not surprisingly, the family environment (e.g., quality of relationships, support, and rejection) has been specifically connected to SGMYs' health outcomes (Ryan et al., 2009; Ryan et al., 2010; Shilo & Savaya, 2011; Snapp et al., 2015). For example, SGMY who perceive their family as supportive or experience parental closeness report fewer depressive symptoms and reduced substance use (Gamarel et al., 2020; Mustanski et al., 2013; Pearson & Wilkinson, 2013). SMY, however, have been found to experience a greater frequency of arguments and less close attachment with parents than their heterosexual peers (Needham & Austin, 2010; Ueno, 2005), particularly sexual minority girls (Baams et al., 2015; Fish & Russell, 2018). Unfortunately, SGMY with lower family connectedness are at higher risk for adverse mental health outcomes, including distress and depression and increased substance use (McConnell et al., 2016; Needham & Austin, 2010; Pearson & Wilkinson, 2013; Shilo & Savaya, 2011).

### *LGBTQ-Specific Family Rejection & Support*

Family responses to and behaviors surrounding youths' SGM identity significantly impacts youths' health outcomes. LGBTQ-specific family rejection and support have been well-documented as significantly impacting SMYs' mental health and substance use (D'Amico & Julien, 2012; Doty et al., 2010; Gamarel et al., 2020; Ryan et al., 2010; Snapp et al., 2015; Willoughby et al., 2010). Perhaps not surprisingly, youth who experience family behaviors that reject or demean their SM identities (e.g., blaming youth for their own mistreatment) are more likely to report depression, suicidality, and substance use (Ryan et al., 2009). Family rejection of SMYs' identity is also associated with the formation of a negative self-perception

which is related to internalizing problems (e.g., depression; Darby-Mullins & Murdock, 2007) and substance use problem severity (Willoughby et al., 2010). Less well-documented is the impact of LGBTQ-specific family support and rejection on GMY health and wellbeing. To my knowledge, only one study has explicitly examined this association (Garmarel et al., 2020), and findings suggest that youth who reported higher levels of family rejection were more likely to be current smokers.

Conversely, LGBTQ-specific family support in adolescence is associated with positive health outcomes. For example, higher levels of LGBTQ-specific family support (e.g., family talking openly about youth's sexual orientation) is positively associated with better positive health and inversely related to substance use and depression (Padilla et al., 2010; Ryan et al., 2010; Snapp et al., 2015). Snapp and colleagues (2015) found that LGBTQ-specific family support was the only form of support (among family, friend, and community supports) that predicted all components of young adult adjustment; this relationship remained significant after controlling for other forms of support.

Notably, the majority of research documenting family rejection and support has explored these concepts independent of one another. Yet, in reality, SGMY can (and do) experience family rejection and support simultaneously (Allen, 2020; Perrin et al., 2004; Ryan et al., 2010). Since LGBTQ-specific family support and rejection are distinct constructs, it logically follows that youth can experience both supportive and rejecting behaviors and messages from a single family member or within a family system. The simultaneous experience of both constructs has been theoretically

explored but not empirically tested among SGMY (Catalpa & McGuire, 2018; Pearson & Wilkinson, 2013). Preliminary research among GM adults illustrates the importance of testing the impact of simultaneous experiences of LGBTQ-specific rejection and support from family. Allen (2020) examined ambiguous family environments, characterized by experiences of both identity rejection and support, among transgender, nonbinary, and genderqueer adults. Results showed that family environments that were more ambiguous in their support – that is, characterized by both high supportive and high rejecting behaviors – were more harmful to the health and wellbeing of transgender adults relative to all other family environments, including those characterized by high levels of rejection and low levels of support. Allen's study emphasizes both the complexity and importance of exploring the distinct and collective impacts of rejection and support within a family system.

**Aims of the Present Study**

Despite some conceptual writing on the complexity of SGMYs' family environment, there remains limited empirical testing to assess how these distinct family processes influence SGMY's mental health and substance use. The current study examined the independent and collective experiences of LGBTQ-specific family support, LGBTQ-specific family rejection, and general family connectedness support using a national sample of SGMY. Furthermore, I examined how these distinct features of SGMY's family environment are uniquely associated with SGMY mental health (i.e., depressive symptoms) and substance use (i.e., alcohol and tobacco) while accounting for the correlation between behaviors hitherto unstudied

among SGMY but with important implications for supporting SGMY and their families.

Specifically, I aimed to address two interrelated research questions:

**Research Question**

1. What are the relationships among general family connectedness (1a), LGBTQ-specific family support (1b), and LGBTQ-specific family rejection (1c) and outcomes of substance use and depressive symptoms in SGMY?

**Hypotheses**

1a. LGBTQ-specific family support will be significantly negatively associated with substance use and depressive symptoms.

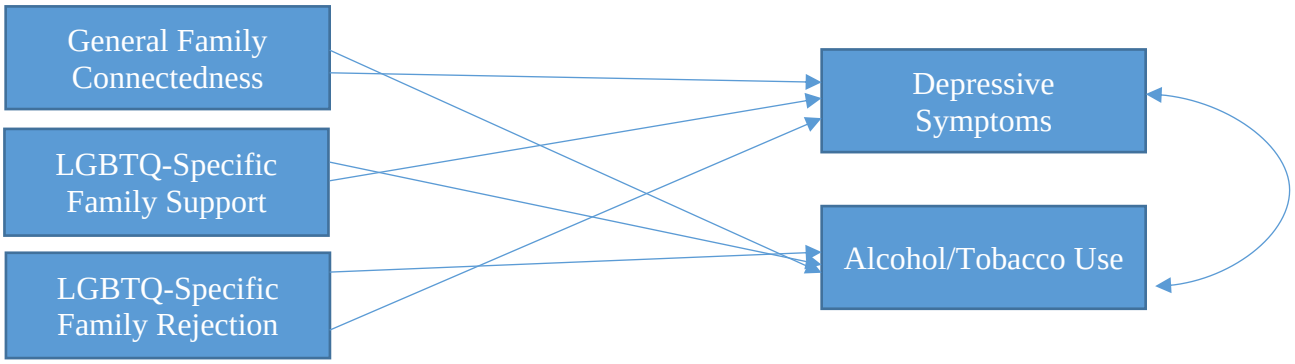
1b. LGBTQ-specific family rejection will be significantly positively associated with substance use and depressive symptoms.

1c. General family connectedness will be significantly negatively associated with substance use and depressive symptoms, but to a lesser degree than LGBTQ-specific family support.

1d. When modeled together, all three constructs will be significantly associated with substance use and depressive symptoms.

**Figure 1**

*Examined Relationships*




*Note*. This model will be adjusted for: race/ethnicity, age, sexual identity, gender identity, sex assigned at birth, and peer bullying.

# Chapter 3: Methods

## Overview

The aim of the current study was to measure the independent and collective impact of LGBTQ-specific family support, LGBTQ-specific family rejection, and general family connectedness on SGMYs' mental health and substance use while accounting for the shared variance and co-occurring nature of substance use and depressive symptoms among SGMY. To address these aims, I conducted a secondary data analysis of the LGBTQ National Teen Survey gathered April-December, 2017 in partnership with the Human Rights Campaign (HRC).

## Data Source and Sample

The LGBTQ National Teen Survey was administered as an anonymous, online, self-report Qualtrics survey from April to December 2017. Youth were eligible to participate if they identified as LGBTQ, were 13-17 years old, English speaking, and residing in the United States. Youth were recruited through social media (e.g. Facebook and Twitter) and HRC partner organizations' communications (e.g. emails). On average, it took participants 43.3 minutes to complete the survey. Participants were compensated with an optional Amazon gift card random drawing and a six-pack of HRC wristbands. The University of Connecticut Institutional Review Board approved the original study.

Participants who were not within the age range, lived outside of the U.S, or completed less than 10% of the survey were excluded from the final dataset. Problematic cases were identified through a post hoc mischievous responder's

sensitivity analysis (see Robinson-Cimpian, 2014) and excluded from the data. Duplicate surveys were also deleted from the data set.

The original data source contains 17,112 SGMY who completed more than 10% of the survey. Roughly 12,000 of these youth completed at least 50% of the survey with approximately 10,000 of these 12,000 youth completing the full survey. A subsample (N = 6,420) of the larger sample was used for this study. Participants were included in the subsample if they provided valid responses to independent and dependent variables, in addition to covariates. Percent missing were highest for family-related variables, largely due to their positioning at the end of the survey.

## Measures

### *Substance Use Frequency*

A composite measure of substance use was used to assess current alcohol use and cigarette smoking frequency as well as heavy episodic drinking. The measure consisted of three items that were modeled from the 2015 YRBS survey (Brener et al., 2013; Kann et al., 2016): "During the past 30 days, on how many days did you smoke cigarettes?" Responses included: 0 = *0 days, 1 = 1 or 2 days, 2 = 3 to 5 days, 3 = 6 to 9 days, 4 = 10 to 19 days, 5 = 20 to 29 days, 6 = all 30 days*. Alcohol use frequency was measured among participants by asking: "During the past 30 days, on how many days did you have at least one drink of alcohol?" Participants responded on a range of *0 = 0 days to 6 = all 30 days*. Participants also answered the question: "During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?" to measure heavy episodic

drinking frequency. Responses options were on a range of *0 = 0 days to 6 = all 30 days*. The items were summed and averaged for a range of 0-6 ($\alpha = 0.69$).

***Depressive Symptoms***

Depressive symptoms were measured using ten items from the Kutcher Adolescent Depression Scale (Brooks et al., 2003; Brooks, 2004; LeBlanc et al., 2002); the question about suicidality in the original scale was excluded. Participants were asked about their experience of various symptoms over the past week: low mood, irritability, sleep difficulties, decreased interest, feelings of worthlessness, tiredness, concentration, worry, and physical manifestations of worry. Responses for each item included: *0 = Hardly ever, 1 = Much of the time, 2 = Most of the time, 3 = All of the time*. Items were summed and averaged for a range of 0-3 ($\alpha = 0.90$).

***General Family Connectedness***

Participants completed a 3-item measure of general family connectedness taken from Add Health (see Gamarel et al., 2020 with application to these data). The three items asked how much participants felt that their "family cares about your feelings?"; "family has lots of fun together?"; "family pays attention to you?" Response options were: *0 = Strongly disagree, 1 = Disagree, 2 = Neither, 3 = Agree, and 4 = Strongly agree*. The mean of these responses, range 0-4, were calculated to create a scale score with higher scores indicating greater family connectedness. Internal consistency for this scale has been found to be adequate with this sample ($\alpha = 0.84$).

### *LGBTQ-Specific Family Support*

LGBTQ-specific family support was measured with a 4-item scale that was adapted from the Family Acceptance Project family support and rejection scale (Ryan et al., 2009; Ryan et al., 2010). Participants were asked how much they felt, "That they like you as you are in regards to being an LGBTQ person?"; "Say they were proud of you for being an LGBTQ person?"; "Get involved in the larger LGBTQ community?"; and "Tell you that you are a role model as an LGBTQ person?" Response options included: *0 = Never, 1 = Rarely, 2 = Sometimes, and 3 = Often*. Items were summed and averaged for a range 0-3 ($\alpha = 0.82$). Higher scores indicate greater levels of LGBTQ-specific family support.

### *LGBTQ-Specific Family Rejection*

LGBTQ-specific family rejection was measured with an adapted 4-item scale that that was adapted from the Family Acceptance Project family support and rejection scale (Ryan et al., 2009; Ryan et al., 2010). Participants were asked how much they feel that their family, "Taunt or mock you because you are an LGBTQ person?"; "Say negative comments about you being an LGBTQ person?"; "Say bad things about LGBTQ people in general?"; and "Make you feel like you are bad because you are an LGBTQ person?" Participants could respond *0 = Never, 1 = Rarely, 2 = Sometimes, and 3 = Often*. The sum of these responses were summed and averaged, for a range of 0-3. Higher scores will indicate greater levels of LGBTQ-specific family rejection. Internal consistency for this scale is adequate with this sample ($\alpha = 0.88$).

## Covariates

### *Age*

Participants age was measured in years with the questions: “What year were you born in?” and “What month were you born in?” Responses to these items were recoded to reflect age in years (range: 13-17).

### *Parent Education*

Education level attainment of participant’s primary caregiver/s was measured with two items: “Please indicate the highest level of education that your first parent/primary caregiver,” and “Please indicate the highest level of education that your second parent/primary caregiver.” Participants who responded to both items will be recoded according to the highest level of education indicated for a caregiver. Responses were coded to reflect the parent with the highest level of education: *1 = Less than high school or GED, 2 = High school or GED, 3 = Vocational/Technical School (2 years), 4 = Some college, 5 = College graduate, 6 = Postgraduate degree or higher*.

### *Ethnoracial Identity*

Participants were asked, “How would you describe yourself?” and were instructed to check all that apply among the choices of non-Hispanic White, non-Hispanic Black or African American, non-Hispanic Asian American or Pacific Islander, non-Hispanic American Indian or Alaska Native, Latino/Hispanic or Mexican American, and Other. Participants who checked more than one box were categorized as “Multiple Identities.” Participants also had the option of “Something else” and wrote in their ethnoracial identity. Among those who wrote in their identity

(663), 304 were back-coded into existing labels and 359 remained classified as "Something else." Responses were coded as: *1 = non-Hispanic White, 2 = non-Hispanic Black or African American, 3 = non-Hispanic Asian American or Pacific Islander, 4 = non-Hispanic American Indian or Alaska Native, 5 = Latino/Hispanic or Mexican American, 6 = Multiple Identities, 7 = Something else.*

***Sexual Orientation***

Sexual orientation was measured with the question, "How do you describe your sexual identity?" Participants chose from the options: gay or lesbian, bisexual, straight, or something else. When a participant checked "Something else," a follow-up question asked, "By something else, do you mean that…" and presented: "Queer," "Pansexual," "Asexual," "Questioning," and "Other." The 450 participants who chose "Other" described their identity in a text box. These responses were back-coded to existing classifications, used to create a new category (e.g. demisexual), or were coded as "multiple" when they wrote in more than one identity. Fourteen sexual orientation identities were assessed: straight, gay, lesbian, bisexual, queer, pansexual, asexual, asexual with romantic attraction, questioning, demisexual, polysexual, fluid, omnisexual, no label. In accordance with Gamarel et al. (2020), I recoded these sexual identities into: *1 = gay or lesbian, 2 = bisexual, 3 = pansexual/omnisexual, 4 = asexual, 5 = something else*.

***Sex Assigned at Birth***

Sex assigned at birth was measured with the question: "What sex were you assigned at birth?". Respondents chose either "male" and "female".

### *Gender Identity*

Gender identity was measured by asking participants if they were male, female, transgender boy or girl, genderqueer, or something else. Those who chose "Something else" were prompted to write-in a response. Gender identity variables were created: participants whose gender identity was consistent with their sex assigned at birth were classified as a cisgender girl or cisgender boy. Participants assigned male at birth who chose male or trans male/boy as their gender identity were coded as "transgender boy," whereas those who checked nonbinary and/or nonconforming/genderqueer were recoded as "trans-feminine non-binary." Participants assigned female at birth who chose binary female gender identities were coded as "transgender girl," and those who checked genderqueernon-conforming and/or nonbinary were coded as "trans-masculine non-binary." Twelve distinct gender identities were assessed: cisgender girl, cisgender boy, transgender boy, transgender girl, genderqueer, non-binary, gender fluid, gender flux, agender, demigender, questioning gender, androgynous, bigender. In accordance with Gamarel et al. (2020), these responses were recoded as: *1 = cisgender boy, 2 = cisgender girl, 3 = transgender boy, 4 = transgender girl, 5 = non-binary*.

### *Outness*

The degree to which SGMY had disclosed their sexual orientation or gender identity was measured with two items that asked participants how many family members "know that you are transgender or non-binary?"; "know of your sexual orientation?" Response options included none, a few, some, most, all, N/A. A substantial number of "missing/NA" responses were youth participants who identify

as cisgender. These responses were recoded as: *0 = missing/NA, 1 = none, 2 = a few/some, 3 = most/all.*

### *Peer Bullying*

Peer bullying was measured with one item that asked: "During the past 12 months, have you ever been bullied on school property?" Response options included: *0 = No, 1 = Yes*.

## Analytic Strategy

The central goal of the present study was to understand family environment impacts on SGMYs' mental health and substance use. First, I assessed bivariate associations between all study variables (e.g., substance use, depressive symptoms, family environment characteristics, and individual characteristics) using chi-square test of independence, t-test, and correlation. Next, I conducted a series of adjusted multivariable regression models to estimate the independent and collective main effects of (1) LGBTQ-specific family support, (2) LGBTQ-specific family rejection, and (3) general family connectedness on depressive symptoms and substance use. Multivariable regression was used to account for the correlation between depressive symptoms and substance use and to isolate the unique effect of family characteristics on each outcome.

# Chapter 4: Results

## Characteristics of the Study Sample

Sample sociodemographic characteristics are shown in Table 1. Age of participants ranged from 13 to 17 (6.1% were 13, 13.5% were 14, 20.6% were 15, 27.2% were 16, 32.5% were 17). Most respondents identified as White non-Hispanic (70.7%), followed by biracial/multiracial (13.5%) and Hispanic (8.6%). Most participants reported their parent's highest education level as college (37.8%) or postgraduate (34.1%). The majority of participants were assigned female at birth (AFAB; 75.98%), with approximately 43.9% of participants identifying as cisgender girl, 26% as non-binary, 20.3% as cisgender boy, 8.7% as transgender boy, and 1.1% as transgender girl. A plurality of the sample identified as lesbian or gay (38.7%) or bisexual (32.2%).

Around 43% of respondents reported experiencing bullying on school property in the past 12 months. Most youth reported disclosing their sexual identity to family members with 36.2% reporting that "a few/some" and 40.1% reporting that "most/all". Regarding gender identity disclosure, 66.1%  of participants were coded as "missing/NA" (mostly cisgender youth) followed by 13.6% as "none", 11.96% as "most/all", and 8.4% as "a few/some.

## Prevalence of Depressive Symptoms

As shown in Table 2, *t*-tests and ANOVAs were run to measure the prevalence of depressive symptoms. Hispanic and Biracial/Multiracial youth reported higher levels of depressive symptoms than White youth ($M$ = 1.40 and $M$ = 1.41, respectively). Youth with a parent who completed college or held a postgraduate

degree reported the lowest levels of depressive symptoms ($M$ = 1.32 and $M$ = 1.18, respectively). Youth AFAB experienced higher levels of depressive symptoms ($M$ = 1.41) than youth assigned male at birth (AMAB; $M$ = 1.03). All other gender identity groups were more likely to experience depressive symptoms than cisgender boys ($M$ = 0.98) with transgender boys reporting higher levels ($M$ = 1.69) than transgender girls as well as their cisgender and non-binary peers; nonbinary youth reported higher depressive symptoms ($M$ = 1.56) than their cisgender peers.

Depressive symptoms also varied by sexual identity. Pansexual/omnisexual youth reported more depressive symptoms ($M$ = 1.55) than gay/lesbian youth ($M$ = 1.17) and "other" identifying youth ($M$ = 1.43). Bisexual youth reported higher levels of depressive symptoms ($M$ = 1.34) than gay/lesbian youth, and lower levels of symptoms than "other" identifying youth. Asexual youth reported more depressive symptoms ($M$ = 1.41) than gay/lesbian youth.

Youth who reported bullying on school property in the past twelve months reported higher levels of depressive symptoms ($M$ = 1.54) than youth who reported no experiences of bullying on school property ($M$ = 1.15). SGMY's disclosure of their sexual identity or gender identity to most or all family members was associated with lower levels of depressive symptoms ($M$ = 1.28 and $M$ = 1.43, respectively) than youth who disclosed to a few or some family members ($M$ = 1.35 and $M$ = 1.66, respectively) and youth categorized as missing or NA ($M$ = 1.43 and $M$ = 1.18, respectively). SGMY who did not disclose their gender identity to any family members showed higher levels of depressive symptoms ($M$ = 1.58) than missing or

NA youth but lower levels of symptoms than youth who had disclosed their identity to a few or some family members.

**Prevalence of Substance Use**

T-tests and ANOVAs were also run to measure the prevalence of substance use; results are displayed in Table 2. White youth reported higher rates of substance use ($M$ = 0.26) than Black/African American youth ($M$ = 0.15); no other racial/ethnic differences were observed. Youth with a parent who completed college or held a postgraduate degree used substances less frequently ($M$ = 0.21 and $M$ = 0.23, respectively) than youth whose parent held a high school degree or GED ($M$ = 0.37) and youth with a parent who completed some college ($M$ = 0.32).

Youth AMAB had higher rates of substance use ($M$ = 0.30) than youth AFAB ($M$ = 0.24). Cisgender boys used substances more frequently ($M$ = 0.31) than cisgender girls ($M$ = 0.23) and non-binary youth ($M$ = 0.23). Transgender boys reported more frequent alcohol and cigarette use ($M$ = 0.33) than cisgender girls and non-binary youth. Asexual youth reported less frequent substance use ($M$ = 0.14) than gay or lesbian youth ($M$ = 0.26), bisexual youth ($M$ = 0.27), and pansexual/omnisexual youth ($M$ = 0.26).

Youth who reported experiences with bullying on school property reported more frequent substance use ($M$ = 0.30) than youth who reported no experiences of bullying on school property ($M$ = 0.22). Youth who did not disclose their sexual identity to any family members reported less frequent substance use ($M$ = 0.21) than youth who disclosed to most or all family members ($M$ = 0.29) and youth categorized as missing/NA ($M$ = 0.34). Youth who disclosed their sexual identity to a few or

some family members engaged in less frequent substance use (*M* = 0.23) than youth who disclosed to most or all family members. There were no significant differences in substance use based on disclosure of gender identity.

**Family Support, Rejection, and Connectedness**

As seen in Table 3's depiction of *t*-test and ANOVA results, there were significant differences in SGMY's family experience. White SGMY reported higher levels of family connection (*M* = 2.52) than Black/African American and Biracial/Multiracial SGMY (*M* = 2.30 and *M* = 2.40, respectively), higher levels of LGBTQ-specific family support (*M* = 0.76) than Black/African American (*M* = 0.42), Asian American (*M* = 0.43), and Hispanic youth (*M* = 0.64); White youth also reported less LGBTQ-specific family rejection (*M* = 0.89) than all other racial and ethnic groups. Black/African American (*M* = 1.35), Asian American (*M* = 1.30), and Hispanic SGMY (*M* = 1.25) reported greater family rejection than Biracial/Multiracial SGMY (*M* = 1.05).

Youth AMAB reported higher levels of LGBTQ-specific family support and family connection (*M* = 0.78 and *M* = 2.61, respectively) and lower levels of LGBTQ-specific family rejection (*M* = 0.83) than SGMYAFAB (*M* = 0.71, *M* = 2.44, and *M* = 1.02, respectively). Transgender boys reported the lowest levels of family connection (*M* = 2.10). Non-binary youth reported lower levels of family connection (*M* = 2.30) than cisgender boys and girls (*M* = 2.64 and *M* = 2.60, respectively), but higher levels of family connection than transgender boys. Cisgender boys and non-binary youth both reported higher levels of LGBTQ-specific family support than cisgender girls (*M* = 0.76, *M* = 0.76, and *M* = 0.67, respectively). SGMY's reports of

LGBTQ-specific family rejection were more varied by gender identity with cisgender girls reporting higher levels of rejection (*M* = 0.94) than cisgender boys but lower levels when compared to transgender boys and non-binary youth (*M* = 1.27 and *M* = 1.09, respectively). Non-binary youth also reported higher levels of rejection than cisgender boys (*M* = 0.81) and transgender girls (*M* = 0.88).

Gay or lesbian youth reported lower levels of LGBTQ-specific family rejection and higher levels of LGBTQ-specific family support (*M* = 0.88 and *M* = 0.82, respectively) than bisexual (*M* = 1.01, *M* = 0.61, respectively), pansexual/omnisexual (*M* = 1.10, *M* = 0.72, respectively), and asexual youth (*M* = 1.11, *M* = 0.52, respectively). Bisexual and asexual youth reported lower levels of LGBTQ-specific family support than pansexual/omnisexual youth and youth who identified as "something else" (*M* = 0.82). Gay or lesbian youth reported higher levels of family connection (*M* = 2.57) than pansexual/omnisexual and asexual youth (*M* = 2.28 and *M* = 2.35, respectively), and youth who identified as "something else" (*M* = 2.41). Asexual youth reported lower levels of family connection than bisexual youth (*M* = 2.52).

Youth who had disclosed their gender identity to a few or some family members reported lower levels of connection (*M* = 2.13) than youth who had disclosed to no family members or all (*M* = 2.22 and *M* = 2.37, respectively). SGMY who had disclosed their gender identity to all family members experienced higher levels of connection (*M* = 2.37) than youth who had not disclosed their gender identity to family (*M* = 2.22). Youth who were "missing" or replied "NA" to questions of gender identity disclosure had higher levels of family connection (*M* =

2.61) than youth who had disclosed to all or no family members ("Missing/NA" youth were mostly cisgender SMY). Youth who had not disclosed their gender identity to family members reported higher levels of LGBTQ-specific family rejection ($M$ = 1.26) than SGMY who had disclosed to some or all family members ($M$ = 1.21 and $M$ = 0.92, respectively). Youth who disclosed their gender identity to most or all family members reported less rejection than SGMY who had only disclosed to some family. Youth who had disclosed their gender identity to all family members reported higher levels of LGBTQ-specific family support than all other youth ($M$ = 1.1) and SGMY who disclosed to some family experienced higher levels of support ($M$ = 0.70) than youth who had not disclosed to family ($M$ = 0.52).

SGMY who disclosed their sexual identity to all family members experienced the highest level of LGBTQ-specific family support ($M$ = 1.02) and family connection ($M$ = 2.63) and the lowest levels of LGBTQ-specific family rejection ($M$ = 0.74). SGMY who disclosed their identity to some family members reported higher levels of support and connection ($M$ = 0.63 and $M$ = 2.46, respectively) than youth who had not disclosed to family ($M$ = 0.30 and $M$ = 2.27, respectively). Youth who disclosed their sexual identity to some family also reported lower levels of LGBTQ-specific family rejection than youth who did not disclose to family ($M$ = 1.01 and $M$ = 1.38, respectively).

SGMY with a parent with a professional degree reported receiving a higher level of LGBTQ-specific family support ($M$ = 0.79) than SGMY with parents at all other education levels, with the exception of SGMY with parents who were a "college graduate." SGMY with a parent who completed college reported a higher level of

support than SGMY with a parent with less than a high school degree or GED ($M$ = 0.73 and $M$ = 0.46, respectively). Similarly, youth with a parent with a professional degree reported higher levels of family connection than all other youth ($M$ = 2.70). A similar pattern was found for LGBTQ-specific family rejection, whereby SGMY whose parent holds a bachelor's or professional degree reported the lowest levels of rejection ($M$= 0.99 and $M$ = 0.79, respectively) when compared to all other parent education groups.

SGMY who did not experience bullying on school property reported higher levels of family connection ($M$ = 2.66) and lower levels of LGBTQ-specific family rejection ($M$ = 0.83). SGMY who reported experiencing bullying on school property reported higher levels of LGBTQ-specific family support ($M$ = 0.73) than youth who did not experience bullying ($M$ = 0.72) although this was a statical difference, the actual means are not practically different.

**Correlations**

Table 4 reports the correlations between all continuous variables. Age and depressive symptoms were weakly negatively correlated whereas substance use was weakly positively correlated with age. Age was not significantly correlated with general family connectedness and was weakly correlated with both LGBTQ-specific family support ($r$ = -0.072) and LGBTQ-specific family rejection ($r$ = 0.027). Depressive symptoms were weakly correlated with substance use ($r$ = 0.123) and LGBTQ-specific family support ($r$ = -0.142). General family connectedness was moderately negatively associated with depressive symptoms ($r$ = -0.442) and moderately positively associated with LGBTQ-specific family rejection ($r$ = 0.323).

Substance use was weakly correlated with all family variables with a significant negative relationship with general family connectedness (r = -0.106) and LGBTQ-specific family support (r = -0.025); substance use was positively correlated with LGBTQ-specific family rejection (*r* = 0.075). General family connectedness was significantly moderately correlated with LGBTQ-specific family support (*r* = 0.387) and LGBTQ-specific family rejection (*r* = -0.49). Lastly, LGBTQ-specific family support was significantly moderately correlated with LGBTQ-specific family rejection (*r* = -0.405).

**Multivariate Regression: Family Relationships, Depressive Symptoms, and Substance Use**

Table 5 presents estimates from stepwise multivariate regression models that assess the relationship between the three distinct familial processes and outcomes depressive symptoms and substance use. Step 1 assess the relationship between LGBTQ-specific family support, Step 2 adds LGBTQ-specific family rejection, and Step 3 adds general family connectedness. All reported results were significant at $p < .05$, unless otherwise noted.

In Step 1 models, LGBTQ-specific family support was significantly negatively associated with depressive symptoms (*b* = -0.12) and substance use (*b* = -.02). When LGBTQ-specific family rejection was added to the model (Step 2), LGBTQ-specific family support remained significantly negatively associated with depressive symptoms, although to a lesser degree (*b* = -0.05); however, LGBTQ-specific family support was no longer associated with substance use (*b* = -0.02, *p* =

0.58). LGBTQ-specific family rejection was significantly positively associated with both depressive symptoms ($b$ = 0.18) and substance use ($b$ = 0.04).

Finally, the Step 3 model showed that the positive association between LGBTQ-specific family rejection, depressive symptoms ($b$ = 0.09), and substance use ($b$ = 0.03) remained after adding general family connectedness. General family connectedness was significantly negatively associated with depressive symptoms ($b$ = -0.25) and substance use ($b$ = -0.05). Of note, LGBTQ-specific family support was significantly positively associated with depressive symptoms ($b$ = 0.03) in the presence of LGBTQ-specific family rejection and general family connectedness, suggesting a possible suppression effect. An additional post-hoc sensitivity analysis were conducted to assess whether the LGBTQ-specific support suppression effect was present in a model with family connectedness in the absence of LGBTQ-specific family rejection. Results showed that the suppression effect is only present in models that include all three family process variables. LGBTQ-specific family support remained non-significant in its association with substance use ($b$ = 0.01, p = 0.34).

# Chapter 5: Discussion

These findings add to a limited but growing body of research examining the impact of family on SGMY's health outcomes. Using a subsample of SGMY from the LGBTQ National Teen Survey, I examined the associations between LGBTQ-specific family connection, LGBTQ-specific family rejection, and general family connectedness with SGMY's depressive symptoms and substance use. After adjusting for sociodemographic variables and experiences of bullying at school, my findings suggest that families both protect against higher levels of depressive symptoms and more frequent substance use but also can compound SGMY's risk for these same outcomes. Importantly, findings suggest that these distinct family processes each exert a unique influence on mental health and substance use.

The complexity of SGMY's family environment is rarely captured in empirical studies of SGMY health and wellness. This study expands the current research and provides a more accurate and nuanced perspective of how multiple family factors coalesce to influence SGMY's health through stepwise multivariate regressions. My results suggest that all three family processes are related to depressive symptoms, and that general family connection and LGBTQ-specific rejection are related to substance use frequency. The correlations among the family-specific variables suggest that support, rejection, and connectedness are distinct constructs and that SGMY can (and do) experience them simultaneously.

Consistent with my hypothesis and previous research (Hypothesis 1a; Ryan et al., 2010), SGMY who reported LGBTQ-specific family support experienced fewer depressive symptoms and less frequent substance use. In the presence of LGBTQ-

specific family rejection, however, LGBTQ-specific family support had less positive effects on SGMY's depressive symptoms and was no longer protective against SGMY's substance use, a result not anticipated by hypotheses (Hypothesis 1b). Importantly, when family connectedness was added to the model, the association between LGBTQ-specific family rejection SGMY's depressive symptoms and substance use was weakened. Together, these observations across modeling steps demonstrate the distinct influence of these family processes for SGMY mental health and substance use. The findings further support the need for future research that explores greater nuance in parent-child relationship qualities and processes specific to LGBTQ (Newcomb et al., 2019), particularly in the context of SGMY mental health and substance use.

Surprisingly, LGBTQ-specific family support became positively associated with SGMY's depressive symptoms in the presence of LGBTQ-related rejection and general family connectedness. These results counter hypotheses (Hypothesis 1a; Hypothesis 1d) and suggest a possible suppression effect —that in the presence of LGBTQ-specific rejecting behaviors, LGBTQ-specific supportive behaviors are neutralized and may even further undermine the mental health of SGMY. I conducted additional post hoc analyses to further disentangle the suppression effect. I found that the suppression effect was only present in models with LGBTQ-specific rejection, even in the absence of family connection—which further supports my inference. Contrary to my hypothesis (Hypothesis 1c), when LGBTQ-specific family rejection was removed from the model, LGBTQ-specific family support was no longer

significant and general family connectedness becomes the only family factor protective against SGMY's depressive symptoms and substance use.

My findings, in the context of the sensitivity analysis, could indicate that connection to family is a foundational strength that can help SGMY overcome unique stressors and manage mental health in the absence of rejecting behaviors. When SGMY experience rejecting behaviors from family, family relationships and supportive behaviors become less protective against depressive symptoms and substance use. We know from existing literature that identity-specific support is important for SGMY's health outcomes (Ryan et al., 2010); however, the suppression effect may indicate that family's supportive behaviors in the context of rejecting behaviors could have uniquely harmful effects on SGMY's mental health and substance use. This is consistent with Allen's (2020) results that found ambiguous family environments, characterized by both support and rejection, resulted in more negative mental health outcomes among transgender adults than those who experienced outright rejecting environments. Allen's (2020) work and the results of this study indicate that support is important but becomes inconsequential in the presence of rejecting behaviors. In the broader literature, SGMY's family environment has been oversimplified and has failed to capture this nuanced picture of rejecting and supporting behaviors (Fish, 2020b). Further research needs to specifically measure and apply methods that help identify how rejecting and supporting behaviors impact SGMY's health outcomes when they co-exist in the family environment. Researchers and practitioners also need to collaborate to create clinical measures that capture SGMY's complex family environments and related

interventions to address these behaviors in ways that improve SGMY mental health and lessen substance use.

Although not a specific research question, I did observe substantive bivariate findings to note. There were significant differences between White SGMY's reported family experiences and SGMY of color's reported experiences. More specifically, Black/African American and Biracial/Multiracial SGMY reported lower levels of general family connection than their White peers. Additionally, all SGMY of color (e.g., Asian American, Hispanic, Black/African American) reported higher levels of LGBTQ-specific family rejection than their White counterparts. Finally, White SGMY reported higher levels of LGBTQ-specific family support than Black/African American, Asian American, and Hispanic SGMY and Biracial/Multiracial SGMY reported higher levels than Black/African American and Asian American SGMY. These results reveal that SGMY of color may have unique familial experiences around their identities that warrant further attention; and that there may be some benefit to exploring the measurement of LGBTQ-specific family support and rejection cross-culturally to eliminate potential confounding that could arise from ill-informed measures.

We know from the general literature that families influence youth's mental health and substance use differently across racial and ethnic groups. Reeb et al.'s (2015) study found that family cohesion is more strongly protective against alcohol-related problems for White youth than it is for Black or Latino youth. Despite this knowledge, a limited number of studies within SGMY research have examined differences across racial and ethnic groups. Emerging research and the results from

this study call for an intentional examination of different family experiences across racial and ethnic groups. Illuminating the diverse experiences of SGMY in their family contexts will help inform research measures and focus clinical intervention. In doing so, researchers and practitioners would gain insight into the cultural values that shape SGMY's experiences, including unique resilience factors for SGMY of color in the context of family.

There were also significant differences among SGMY based on their level of disclosure of sexual or gender identity to family members. SGMY who disclosed their sexual and/or gender identity to most or all of their family reported higher levels of general family connectedness and LGBTQ-specific family support and lower levels of LGBTQ-specific family rejection than SGMY who disclosed to none or a few family members. Although there may be a selection effect, whereby youth with unsupportive families may delay disclosure; findings also suggest that disclosing these identities to family members may strengthen familial relationships. We know from Russell et al.'s (2014) study that LGBTQ youth's outness at school is associated with later positive psychosocial adjustment, despite also exposing them to greater school victimization. The bivariate results from this study may suggest a similar effect for SGMY within their family context. Disclosing their identities to family members may alleviate SGMY's distress (Diamond et al., 2011; Snapp et al., 2015) which could create space for greater connection. Disclosure may also generate greater awareness of rejecting behaviors within the family context and among family members and provide more opportunities to engage in LGBTQ-specific support. More work around youth disclosure and family support is needed to help support

these suppositions and how family dynamics shift in the context of SGMY's disclosure and time since disclosure.

I was also intentional in modeling the correlation between outcomes of depressive symptoms and substance use, which are often estimated independent of one another in the SGMY health literature. Results showed that more frequent substance use was positively associated with SGMY's number of depressive symptoms. These results are consistent with studies on the general population and SGM adults (Drescher et al., 2018; Hatchel et al., 2019; Jun et al., 2019; Kessler, 1996; Najt et al., 2011) that show co-occurrence of substance use and mental health disorders is common and SGM adults who smoke are more likely to have a history of depression. Although this study could not measure co-occurrence among SGMY, these results significantly expand our understanding of risk factors for substance use and depressive symptoms among SGMY through examining the unique contribution of family processes on depressive symptoms independent of substance use. In the presence of LGBTQ-specific family rejection, LGBTQ-specific family support remains protective against SGMY's number of depressive symptoms but no longer decreases SGMY's frequency of substance use. When all three family factors are present, general family connectedness becomes the most robust protective factor for SGMY against depressive symptoms and substance use.

**Limitations and Areas of Future Research**

Regarding limitations, this study is cross-sectional and therefore is limited in its ability to make causal claims between family processes and SGMY mental health and substance use or its association with outcomes over time. Given what we know

about the dynamic, inconstant nature of family processes, mental health, and substance use (Huebner et al., 2017; Kessler et al., 2007; Kessler et al., 2012), future longitudinal research is needed to understand the temporal relationship between family processes and mental health and substance use.

Additionally, a lack of specificity in the family-specific constructs obfuscated the family member responsible for the behaviors SGMY reported. It was unclear to what extent rejecting or supporting behaviors were related to parents, siblings, or extended family. Our measure of general connection was also not specific to particular family members, so it remains unclear who SGMY reported feeling connected to more specifically (e.g., parent, sibling, aunt). Similarly, we know from existing literature that families' identity-specific support and rejection is important for SGMY health outcomes (Ryan et al., 2009, 2010), but my measure may not accurately gauge the support behaviors SGMY desire (Diamond et al., 2011), or which behaviors or pattern of behaviors may be most influential for SGMY mental health and substance use. SGMY family measurement research is necessary to better capture family relationships, processes, and their associations with health for SGMY.

Finally, some limitations of the measures used for this study's outcome variables should be considered. The Kutcher Adolescent Depression Scale was designed for periodic use during clinical work. The authors recommend obtaining a baseline score and comparing subsequent scores to this baseline. Using the Kutcher Adolescent Depression Scale for this study only provided information on the number of depressive symptoms and limited this study's ability to discuss family processes' impact on SGMY's depression severity. SGMY reported tobacco use by answering

questions about cigarettes and cigarillos; tobacco use through other means commonly used by adolescents (e.g., e-cigarettes) was not captured. Future research should consider measures that capture a greater degree of specificity in each of these areas.

**Clinical Implications**

There is a growing body of research on LGBTQ-affirming clinical practices, though the majority of this research examines SGM adults (Russell & Fish, 2016). Some of this research can be generalized to clinical intervention and work with SGMY, but SGMY experience unique stressors tied to their stage of development and the contexts in which they are navigating their identities (e.g., family of origin, school; Goldbach & Gibbs, 2016). This reality calls for evidence-based treatments that address SGMY's specific mental health needs, integrates substance use prevention and intervention, incorporates family when safe to do so, and collaborates with schools (Diamond et al., 2011; Russell & Fish, 2016; SAMHSA, 2014). It should be noted that GMY also have unique treatment needs among SGMY that include gender-affirming medical care and mental health support, forms of care not often integrated within the United States (Fish et al., 2020a).

Despite research that shows the protective nature of family connection and LGBTQ-specific support and increased risk for SGMY who experience LGBTQ-specific family rejection, these family factors have largely been studied independently. Practitioners are tasked with supporting families in maintaining and (when necessary) healing familial relationships as SGMY navigate their sexual and gender identities. To date, there has been minimal research to support practitioners in navigating this complex task (Huebner et al., 2014). This study provides further

evidence to the limited body of clinical research for the incorporation of family into SGMY mental health and substance use treatment, and treatment goals that include a focus on simultaneously decreasing rejecting behaviors, increasing affirming behaviors, and building or strengthening genuine connection between SGMY and their families (Diamond et al., 2011; Diamond & Shpigel, 2014; Ibrahim et al., 2018).

Although previous research has emphasized the importance of building a genuine connection between parents and SGMY (Gower et al., 2018; Shilo & Savaya, 2011), the findings presented here implore researchers and practitioners to expand their scope when researching and treating SGMY's health outcomes to more accurately reflect the dynamic processes of SGMY in families. Specifically, merely focusing on increasing support and connection may miss negative behaviors that family engage in that can neutralize the positive effects of support, or worse, create specific harms for SGMY. Practitioners need to work with families and SGMY to identify specific behaviors that SGMY perceive as undermining and unsupportive, including microaggressions. In doing so, practitioners can work with families to eliminate these behaviors alongside increasing LGBTQ-specific support behaviors. Laws and policy changes are also necessary for coverage of treatment that incorporates family and addresses co-occurring disorders to increase accessibility.

The co-occurrence of substance use and mental health disorders is prevalent among adolescents in the general population and difficult to treat (Hawkins, 2009; Kessler et al., 2007), but understudied among SGMY. This study provides evidence that SGMY, like the general population, experience co-occurrence of substance use and mental health disorders. These results along with research showing poorer

treatment outcomes for people with co-occurring disorders (Najt et al., 2011) call for preventative and interventionist work that targets both substance use and mental health, and the varied mechanisms that contribute to the progression and maintenance of both among SGMY. Any treatment addressing co-occurrence among SGMY must be LGBTQ-affirming (Penn et al., 2013) and informed by minority stress theory given that SGMY experience unique stressors and barriers that impact their mental health and use of substances. Additionally, research on youth's mental health and substance suggest involvement of family in treatment (Hawkins 2009; Liddle et al., 2018), a recommendation highlighted by my study's findings.

**Conclusion**

The current cohort of SGMY are exploring and disclosing their minoritized identities at younger ages than former cohorts (Bishop et al., 2019; D'Augelli et al., 2005; Perrin et al., 2004; Russell & Fish, 2016). Because of this, SGMY are largely navigating these identities and minority stressors in the contexts of school and family. This study sought to understand how families uniquely protect against and increase the risk for depressive symptoms and substance use among SGMY. General family connectedness as well as LGBTQ-specific family support and rejection each uniquely impact SGMY's mental health and substance use. Findings further demonstrate the deleterious effects of LGBTQ-specific rejection, and its undermining qualities even in the context of support and connection. Practitioners must take a family approach when working with SGMY and assess various family behaviors and relationships that both support and thwart the mental health and wellbeing of SGMY. Researchers and

research practitioners should continue to explore these issues, with an eye towards developing evidence-based tools to aid in these assessments and interventions.

# Tables

**Table 1**

*Demographic Characteristics (N = 6,420)*

| | n | % |
|---|---|---|
| **Sex** | | |
| Male | 1542 | 24.02 |
| Female | 4878 | 75.98 |
| **Gender Identity** | | |
| Cisgender boy | 1305 | 20.33 |
| Cisgender girl | 2817 | 43.88 |
| Transgender boy | 556 | 8.66 |
| Transgender girl | 70 | 1.09 |
| Non-binary | 1672 | 26.04 |
| **Sexual Identity** | | |
| Gay or lesbian | 4286 | 38.72 |
| Bisexual | 2066 | 32.18 |
| Pansexual/Omnisexual | 884 | 13.77 |
| Asexual | 313 | 4.88 |
| Something else | 671 | 10.45 |
| **Race/Ethnicity** | | |
| White | 4536 | 70.65 |
| Black/African American | 223 | 3.47 |
| Asian American | 205 | 3.19 |
| Hispanic | 554 | 8.63 |
| Biracial/Multiracial | 864 | 13.46 |
| Something else | 38 | 0.59 |
| **Parental Education** | | |
| Less than High school or GED | 105 | 1.64 |
| High school or GED | 643 | 10.02 |
| Vocational/Technical school | 205 | 3.19 |
| Some college | 854 | 13.3 |
| College graduate | 2426 | 37.79 |
| Professional degree | 2187 | 34.07 |
| **Age** | | |
| 13 | 394 | 6.14 |
| 14 | 864 | 13.46 |
| 15 | 1325 | 20.64 |
| 16 | 1748 | 27.23 |
| 17 | 2089 | 32.54 |
| **Sexual Identity Disclosure** | | |
| Missing/NA | 204 | 3.18 |
| None | 1324 | 20.62 |

| | | |
|---|---|---|
| A few/some | 2321 | 36.15 |
| Most/all | 2571 | 40.05 |
| **Gender Identity Disclosure** | | |
| Missing/NA | 4244 | 66.11 |
| None | 872 | 13.58 |
| A few/some | 536 | 8.35 |
| Most/all | 768 | 11.96 |
| **Experiences of Bullying** | | |
| No | 3646 | 56.79 |
| Yes | 2774 | 43.21 |

**Table 2**

*Bivariate Associations (t-tests and ANOVAs) Between Sociodemographic Characteristics and Dependent Variables*

| | Depressive Symptoms | | | | Substance Use | | | |
|---|---|---|---|---|---|---|---|---|
| | *M* | | *t/F* | *p* | *M* | | *t/F* | *p* |
| | | | -17.37 | <.001 | | | 3.9 | <.001 |
| **Sex Assigned at Birth** | | | | | | | | |
| Male | 1.03 | | | | 0.30 | | | |
| Female | 1.41 | | | | 0.24 | | | |
| | | | 162.65 | <.001 | | | 8.4 | <.001 |
| **Gender Identity** | | | | | | | | |
| Cisgender boy | 0.98 | abcd | | | 0.31 | ac | | |
| Cisgender girl | 1.26 | af | | | 0.23 | ab | | |
| Transgender boy | 1.69 | beg | | | 0.33 | bd | | |
| Transgender girl | 1.37 | ce | | | 0.34 | | | |
| Non-binary | 1.56 | dfg | | | 0.23 | cd | | |
| | | | 50.68 | <.001 | | | 4.09 | .002 |
| **Sexual Identity** | | | | | | | | |
| Gay or lesbian | 1.17 | abcd | | | 0.26 | a | | |
| Bisexual | 1.34 | ae | | | 0.27 | b | | |
| Pansexual/Omnisexual | 1.55 | bf | | | 0.26 | c | | |
| Asexual | 1.41 | c | | | 0.14 | abc | | |
| Something else | 1.43 | def | | | 0.23 | | | |
| | | | 6.51 | <.001 | | | 2.85 | .010 |
| **Race/Ethnicity** | | | | | | | | |
| White | 1.29 | ab | | | 0.26 | a | | |
| Black/African American | 1.38 | | | | 0.15 | a | | |
| Asian American | 1.30 | | | | 0.19 | | | |
| Hispanic | 1.40 | a | | | 0.28 | | | |
| Biracial/Multiracial | 1.41 | b | | | 0.23 | | | |
| Something else | 1.58 | | | | 0.28 | | | |
| | | | 34.57 | <.001 | | | 11.53 | <.001 |
| **Parent Education** | | | | | | | | |
| Less than high school or GED | 1.55 | ad | | | 0.29 | | | |
| High school or GED | 1.52 | be | | | 0.37 | bc | | |
| Vocational/Tech school | 1.40 | f | | | 0.32 | | | |
| Some college | 1.48 | cg | | | 0.32 | de | | |
| College graduate | 1.32 | abch | | | 0.21 | bd | | |
| Professional degree | 1.18 | defgh | | | 0.23 | ce | | |
| | | | 153.36 | <.001 | | | 2.19 | .090 |
| **Gender Identity Disclosure** | | | | | | | | |
| Missing/NA | 1.18 | ac | | | 0.25 | | | |
| None | 1.58 | ab | | | 0.22 | | | |
| A few/some | 1.66 | bd | | | 0.25 | | | |
| Most/all | 1.54 | cd | | | 0.29 | | | |
| | | | 5.04 | .002 | | | 10.01 | <.001 |
| **Sexual Identity Disclosure** | | | | | | | | |
| Missing/NA | 1.43 | a | | | 0.34 | a | | |
| None | 1.33 | | | | 0.21 | ab | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A few/some | 1.35 | b | | | 0.23 | c | | |
| Most/all | 1.28 | ab | | | 0.29 | bc | | |
| | | | -21.77 | <.001 | | | -5.98 | <.001 |
| **Experiences of Bullying** | | | | | | | | |
| No | 1.15 | | | | 0.22 | | | |
| Yes | 1.54 | | | | 0.30 | | | |

*Note*. Values with the same subscript are statistically different from one another at $p < .05$. T and f statistics and corresponding p value represent the omnibus test for each analysis. Bonferonni corrections were applied for pairwise comparisons.

**Table 3**

*Bivariate Associations (t-tests and ANOVAs) Between Sociodemographic Characteristics and Independent Variables*

| | LGBTQ-Specific Family Support | | | LGBTQ-Specific Family Rejection | | | General Family Connectedness | | |
|---|---|---|---|---|---|---|---|---|---|
| | *M* | | *t/F* *p* | *M* | | *t/F* *p* | *M* | | *t/F* *p* |
| | | | 2.99 <.001 | | | -7.3 <.001 | | | 5.88 <.001 |
| **Sex Assigned at Birth** | | | | | | | | | |
| Male | 0.78 | | | 0.83 | | | 2.61 | | |
| Female | 0.71 | | | 1.02 | | | 2.44 | | |
| | | | 5.8 <.001 | | | 31.6 <.001 | | | 55.26 <.001 |
| **Gender Identity** | | | | | | | | | |
| Cisgender boy | 0.76 | a | | 0.81 | ad | | 2.64 | ad | |
| Cisgender girl | 0.67 | ab | | 0.94 | abe | | 2.6 | be | |
| Transgender boy | 0.77 | | | 1.27 | b | | 2.1 | abcf | |
| Transgender girl | 0.91 | | | 0.88 | c | | 2.52 | c | |
| Non-binary | 0.76 | b | | 1.09 | cde | | 2.3 | def | |
| | | | 26.29 <.001 | | | 11.52 .002 | | | 17.07 <.001 |
| **Sexual Identity** | | | | | | | | | |
| Gay or lesbian | 0.82 | acd | | 0.88 | abc | | 2.57 | acd | |
| Bisexual | 0.61 | abf | | 1.01 | a | | 2.52 | b | |
| Pan/Omnisexual | 0.72 | bce | | 1.10 | b | | 2.28 | a | |
| Asexual | 0.52 | deg | | 1.11 | c | | 2.35 | bc | |
| Something else | 0.82 | fg | | 0.99 | | | 2.41 | d | |
| | | | 14.71 <.001 | | | 30.59 <.001 | | | 5.58 <.001 |
| **Race/Ethnicity** | | | | | | | | | |
| White | 0.76 | abc | | 0.89 | abcd | | 2.52 | ab | |
| Black/African American | 0.42 | adf | | 1.35 | ae | | 2.30 | a | |
| Asian American | 0.43 | beg | | 1.30 | bf | | 2.37 | | |
| Hispanic | 0.64 | cde | | 1.25 | cg | | 2.44 | | |
| Biracial/Multiracial | 0.75 | fg | | 1.05 | defg | | 2.40 | b | |
| Something else | 0.75 | | | 1.28 | | | 2.30 | | |
| | | | 8.67 <.001 | | | 38.07 <.001 | | | 52.74 <.001 |
| **Parent Education** | | | | | | | | | |
| Less than high school or GED | 0.46 | ab | | 1.36 | af | | 2.03 | af | |
| High school or GED | 0.66 | c | | 1.22 | bg | | 2.18 | bg | |
| Vocational/Tech school | 0.59 | d | | 1.22 | ch | | 2.14 | ch | |
| Some college | 0.65 | e | | 1.14 | di | | 2.27 | di | |
| College graduate | 0.73 | a | | 0.99 | abcde | | 2.50 | abcde | |
| Professional degree | 0.79 | bcde | | 0.79 | efghi | | 2.70 | efghi | |
| | | | 75.88 <.001 | | | 47.96 <.001 | | | 70.94 <.001 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Gender Identity Disclosure** | | | | | | | | | | | | |
| Missing/NA | 0.70 | ac | | | 0.90 | a | | | 2.61 | ac | | |
| None | 0.52 | abd | | | 1.26 | abc | | | 2.22 | abd | | |
| A few/some | 0.70 | be | | | 1.21 | bd | | | 2.13 | be | | |
| Most/all | 1.1 | cde | | | 0.92 | cd | | | 2.37 | cde | | |
| | | | 43.08 | <.001 | | | 145.49 | <.001 | | | 43.08 | <.001 |
| **Sexual Identity Disclosure** | | | | | | | | | | | | |
| Missing/NA | 2.37 | a | | | 1.01 | ac | | | 2.37 | a | | |
| None | 2.27 | bc | | | 1.38 | abd | | | 2.27 | bc | | |
| A few/some | 2.46 | bd | | | 1.01 | be | | | 2.46 | bd | | |
| Most/all | 2.63 | acd | | | 0.74 | cde | | | 2.63 | acd | | |
| | | | -0.85 | <.001 | | | -14.98 | <.001 | | | 16.98 | <.001 |
| **Experiences of Bullying** | | | | | | | | | | | | |
| No | 0.72 | | | | 0.83 | | | | 2.66 | | | |
| Yes | 0.73 | | | | 1.18 | | | | 2.25 | | | |

*Note*. Values with the same subscript are statistically different from one another at $p < .05$. T and f statistics and corresponding p value represent the omnibus test for each analysis. Bonferonni corrections were applied for pairwise comparisons.

**Table 4**

*Correlations Between Health Outcomes, Continuous Demographic Characteristics, and Family-Specific Variables*

| Variables | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. Age | - | | | | |
| 2. Depressive Symptoms | -0.068*** | - | | | |
| 3. Substance Use | 0.154*** | 0.123*** | - | | |
| 4. LGBTQ-Specific Family Support | *-0.072*** | -0.142*** | -0.025* | - | |
| 5. LGBTQ-Specific Family Rejection | *0.027*** | 0.323*** | 0.075*** | -0.405*** | - |
| 6. General Family Connectedness | -0.005 | -0.442*** | -0.106*** | 0.387*** | -0.49*** |

*Note*. ***p < .001; **p < .01; *p < .05

**Table 5**

*Stepwise Multivariable Regression Testing the Relationship Between LGBTQ-Specific Family Support, LGBTQ-Specific Family Rejection, and General Family Connectedness with Depressive Symptoms and Substance Use*

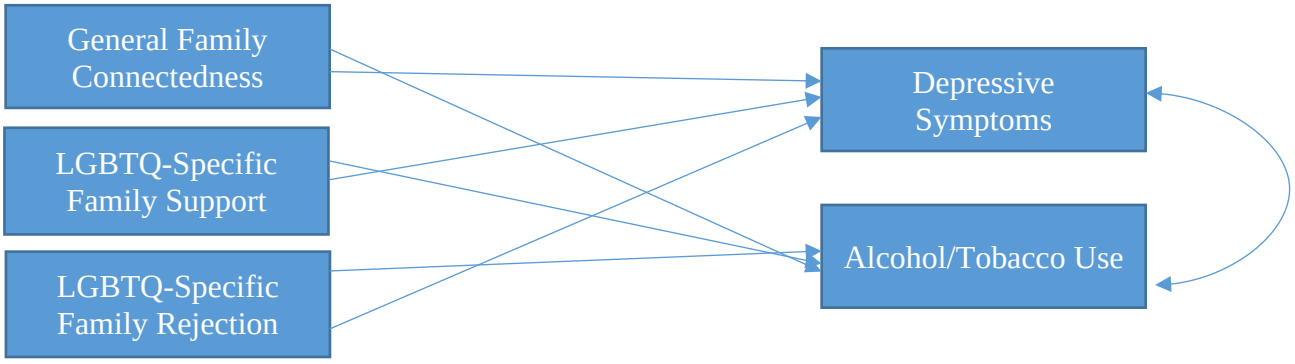
| | Step 1: LGBTQ-Specific Family Support | | | | Step 2: LGBTQ-Specific Family Support & LGBTQ-Specific Family Rejection | | | | Step 3: LGBTQ-Specific Family Support & LGBTQ-Specific Family Rejection & General Family Connectedness | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Depressive Symptoms | | Substance Use | | Depressive Symptoms | | Substance Use | | Depressive Symptoms | | Substance Use | |
| | *b* | *p* | *b* | *p* | *b* | *p* | *b* | *p* | *b* | *p* | *b* | *p* |
| LGBTQ-Specific Family Support | **-.12** | **<.001** | **-.02** | **.017** | **-.05** | **<.001** | -.01 | .580 | **.03** | **.027** | .01 | .335 |
| LGBTQ-Specific Family Rejection | | | | | **.18** | **<.001** | **.04** | **<.001** | **.09** | **<.001** | **.03** | **.006** |
| General Family Connectedness | | | | | | | | | **-.25** | **<.001** | **-.05** | **<.001** |
| **Sex** [ref: male] | | | | | | | | | | | | |
| Female | .24 | <.001 | .05 | .321 | .21 | <.001 | .04 | .391 | .19 | <.001 | .03 | .446 |
| **Gender Identity** [ref: cisgender boy] | | | | | | | | | | | | |
| Cisgender girl | .04 | .462 | -.09 | .059 | .05 | .419 | -.09 | .061 | .07 | .236 | -.09 | .071 |
| Transgender boy | .36 | <.001 | .05 | .518 | .31 | <.001 | .04 | .631 | .28 | .001 | .03 | .691 |
| Transgender girl | .30 | .004 | .11 | .220 | .29 | .005 | .10 | .234 | .29 | .003 | .10 | .232 |
| Non-binary | .29 | <.001 | -.01 | .842 | .27 | .001 | -.02 | .779 | .25 | .001 | -.02 | .746 |
| **Sexual Identity** [ref: gay or lesbian] | | | | | | | | | | | | |
| Bisexual | .05 | .025 | .05 | .011 | .06 | .004 | .05 | .006 | .08 | <.001 | .05 | .003 |
| Pansexual/Omnisexual | .10 | .001 | .03 | .192 | .10 | <.001 | .03 | .181 | .09 | <.001 | .03 | .206 |
| Asexual | .03 | .511 | -.08 | .018 | .04 | .348 | -.08 | .022 | .05 | .230 | -.08 | .025 |
| Something else | .01 | .672 | -.03 | .339 | .03 | .383 | -.02 | .406 | .03 | .298 | -.02 | .421 |
| **Race / Ethnicity** [ref: White] | | | | | | | | | | | | |
| Black/African American | .07 | .111 | -.13 | .001 | .02 | .627 | -.14 | <.001 | .03 | .536 | -.14 | <.001 |
| Asian American | .08 | .096 | -.05 | .263 | .03 | .533 | -.06 | .153 | .03 | .515 | -.06 | .152 |
| Hispanic | .08 | .016 | -.02 | .438 | .03 | .320 | -.03 | .232 | .06 | .030 | -.02 | .347 |
| Biracial/Multiracial | .07 | .007 | -.04 | .043 | .05 | .049 | -.05 | .025 | .04 | .095 | -.05 | .019 |
| Something else | .15 | .171 | .03 | .724 | .10 | .353 | .02 | .828 | .11 | .285 | .02 | .811 |
| **Parental Education** [ref: less than high school or GED] | | | | | | | | | | | | |
| High school or GED | -.05 | .458 | .09 | .140 | -.05 | .462 | .09 | .138 | -.02 | .768 | .09 | .111 |
| Vocational/Tech School | -.17 | .044 | .00 | .959 | -.16 | .049 | .00 | .980 | -.13 | .089 | .00 | .954 |
| Some college | -.10 | .172 | .03 | .603 | -.08 | .230 | .03 | .564 | -.04 | .586 | .04 | .459 |
| College graduate | -.21 | .002 | -.05 | .350 | -.18 | .007 | -.05 | .414 | -.10 | .125 | -.03 | .600 |
| Professional degree | -.31 | <.001 | -.04 | .491 | -.26 | <.001 | -.03 | .639 | -.15 | .019 | -.01 | .916 |
| **Age** | -.01 | .295 | .07 | <.001 | -.01 | .044 | .07 | <.001 | -.01 | .040 | .07 | <.001 |
| **Sexual Identity Disclosure** | | | | | | | | | | | | |
| None | .05 | .408 | -.11 | .011 | -.02 | .775 | -.13 | .004 | -.02 | .727 | -.13 | .004 |
| A few/Some | .06 | .250 | -.10 | .023 | .05 | .346 | -.10 | .019 | .05 | .329 | -.10 | .019 |
| Most/All | .04 | .469 | -.05 | .280 | .05 | .331 | -.04 | .310 | .05 | .302 | -.04 | .310 |
| **Gender Identity Disclosure** | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| None | .01 | .847 | -.10 | .066 | .00 | .986 | -.10 | .058 | .00 | .939 | -.10 | .055 |
| A few/Some | .06 | .409 | -.09 | .120 | .04 | .526 | -.09 | .105 | .01 | .900 | -.10 | .081 |
| Most/All | .02 | .772 | -.08 | .132 | .01 | .842 | -.09 | .124 | -.02 | .717 | -.09 | .095 |
| **Bullying** [ref: no] | .34 | <.001 | .10 | <.001 | .28 | <.001 | .08 | <.001 | .22 | <.001 | .07 | <.001 |
| Yes | 1.17 | <.001 | -.78 | <.001 | 1.09 | <.001 | -.80 | <.001 | 1.69 | <.001 | -.68 | <.001 |

# Figure

**Figure 1**

*Examined Relationships*




*Note.* This model will be adjusted for: race/ethnicity, age, sexual identity, gender identity, sex assigned at birth, and peer bullying.

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# Appendix

**Substance Use Frequency Scale**

Composite scale pulled from the data set. All questions were modeled from the 2015 YRBS survey. All questions will be measured on a 6-point Likert scale with: 0 = *0 days, 1 = 1 or 2 days, 2 = 3 to 5 days, 3 = 6 to 9 days, 4 = 10 to 19 days, 5 = 20 to 29 days, 6 = all 30 days.*

1. During the past 30 days, on how many days did you smoke cigarettes?
2. During the past 30 days, on how many days did you have at least one drink of alcohol?
3. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

**Kutcher Adolescent Depression Scale**

Over the last week, how have you been "on average" or "usually" regarding the following items:

1. Low mood, sadness, feeling blah or down, depressed, just can't be bothered.
2. Irritable, losing your temper easily, feeling pissed off, losing it.
3. Sleep difficulties - different from your usual: trouble falling asleep, lying awake in bed.
4. Feeling decreased interest in: hanging out with friends; being with your best friend; being with your boyfriend/girlfriend; going out of the house; doing school work or work; doing hobbies or sports or recreation.
5. Feelings of worthlessness, hopelessness, letting people down, not being a good person

6. Feeling tired, feeling fatigued, low in energy, hard to get motivated, have to push to get things done, want to rest or lie down a lot.
7. Trouble concentrating, can't keep your mind on schoolwork or work, daydreaming when you should be working, hard to focus when reading, getting "bored" with work or school.
8. Feeling that life is not very much fun, not feeling good when usually would feel good, not getting as much pleasure from fun things as usual.
9. Feeling worried, nervous, panicky, tense, keyed up, anxious.
10. Physical feelings of worry like: headaches, butterflies, nausea, tingling, restlessness, diarrhea, shakes or tremors.

*Question 11 from the original scale asking about suicide was removed for this data set

*All questions in this scale were measured with the responses: *0 = Hardly Ever, 1 = Much of the time, 2 = Most of the time, 3 = All of the time.*

**General Family Connectedness Scale**

How much do you feel that...

1. Your family cares about your feelings
2. Your family has lots of fun together?
3. Your family pays attention to you?

*All questions are measured on a 5-point Likert scale ranging from: 0 = *Strongly Disagree to 4 = Strongly Agree.*

**LGBTQ-Specific Family Rejection Scale**

How much do you feel that...

1. Taunt or mock you because you are an LGBTQ person?
2. Say negative comments about you being an LGBTQ person?
3. Say bad things about LGBTQ people in general?
4. Make you feel like you are bad because you are an LGBTQ person?

*All questions are measured on a 4-point Likert scale ranging from: *0 = Never to 3 = Often.*

**LGBTQ-Specific Family Support Scale**

How much do you feel that...

1. That they like you as you are in regards to being an LGBTQ person?
2. Say they were proud of you for being an LGBTQ person?
3. Get involved in the larger LGBTQ community?
4. Tell you that you are a role model as an LGBTQ person?

*All questions are measured on a 4-point Likert scale ranging from: *0 = Never to 3 = Often.*